The objective of this reference book is to visually present, with consistent terminology, quantitative, qualitative, and mixed methods research designs in education and the social and behavioral sciences in a way that students and researchers can readily understand and accurately apply in their own investigations. Through our experience and research for this guide, we realized there are many inconsistencies and variations of terminology, both within and between research texts in education and the social and behavioral sciences, especially with the use of the terms method, research, approach, and design. We believe that the terminology should be clearly distinguished with the appropriate nomenclature. The interchange of terminology creates confusion among consumers of research, particularly students. We attempt to resolve the confusion by breaking down each aspect of the research terminology into its components in a hierarchical fashion to provide clarity for the reader. As seen in the chart that follows, the resulting nomenclature is thus used throughout the text.
This book is designed to improve one’s ability to conceptualize, construct, test, problem solve, and acquire knowledge, all of which are characteristics of scientific inquiry and the creative process required when conducting research. We have discovered, in teaching research methods courses and supervising dissertation committees, that students often have a difficult time conceptualizing the most appropriate research design, en route to collecting the data and answering the stated research questions or hypotheses. Based on this observation, we sought to find the best text that could help resolve this critical issue. We found that most research methods texts are more broad, covering the entire spectrum of the research process while devoting only a single chapter, or a few sections embedded throughout (often incomplete), to research designs. Furthermore, the authors of these texts often present the research designs without quality visual representations and sound real-life examples. The issue is further confounded when investigators omit from the Methods portion of published manuscripts an accurate description of the research design that was employed.

We also discuss the issue of inconsistent terminology; for example, it is not unusual to see authors utilize the following terms interchangeably: a
correlational method, correlational research, a correlational approach, or a correlational design. Although this may not be entirely wrong, it is not entirely accurate (or specific) and can lead to confusion. It would be more accurate to say all together in sequence, a quantitative method, nonexperimental research, an observational approach, and a predictive design (and then, of course, the correlational statistic or regression analysis is applied to the observational data). These inconsistencies, at best, can lead to confusion and difficulties when attempting to conceptualize and choose the design that best fits the research problem and subsequent questions or hypotheses; at worst, they can render findings invalid. Considering these aspects, students often find themselves lost at that critical part of the research process while attempting to (a) choose a design that will allow for the acquisition of data best suited to answer their research questions or examine their hypotheses and (b) incorporate a design into the Procedures section of their Methods chapter of their dissertation.

Although we cover a variety of practical research designs in quantitative, qualitative, and mixed methods, this book is not intended to be a complete reference guide for individuals conducting program evaluations. We briefly address this issue at the end of this guide. We revealed through our research for this book that many of these sound research designs presented within are underutilized in education and the social and behavioral sciences. We hope the presentation of these materials will continue to strengthen research in the area through the application of sound methodological techniques. These designs can be applied in field, laboratory, and even web-based settings. Although this book does not go into great detail regarding the theory or philosophy of qualitative or quantitative methods and the associated research designs, we do provide recommended texts and articles for the reader who is interested in a more thorough understanding of a particular approach, method, or design. The intent of this book is seemingly paradoxical, in that we attempt to give students and researchers a dense (no filler), yet quick reference guide for conceptualizing and creating a design that best fits the primary research question. Thus, this is an applied text, using visual aids and real-world examples, rather than covering foundational and theoretical issues.

Visually delivering the information coupled with relevant examples may optimize the learning process and subsequent application of learning. The reader will notice that we often state that further decisions about the applications of particular research designs should be based on “theoretical and logistical considerations.” Although we attempt to apply linear logic and black and white elements to scientific methodology, there are many instances in which “rules of thumb” and old laws do not apply. Research in the field of social sciences is still relatively new, and the vast and varied contexts in which we investigate create a level of complexity and sophistication that often requires subjectivity and interpretation.
As mentioned earlier, this book is meant to cover the most practical and common research designs currently used in educational and the social and behavioral sciences. Referring to these research designs as “common” or “practical” is somewhat a misnomer, and it does not imply that the designs are less powerful or the results have less meaning. In reviewing many articles over the years, we have noticed that, all too often, researchers use unnecessarily complex research designs that complicate the application and subsequent statistical analyses, leaving much more room for error. Parsimony is a favorable word in science; that is, a design should be as complex as it needs to be and, at the same time, as simple as it needs to be.

AUDIENCE

The target audience for this book is the researcher in the fields of education, sociology, psychology, nursing, and other human-service fields. More specifically, this book is written for undergraduate students working on honors theses and for graduate students working on theses or dissertations. This book will assist all students who (a) have a basic understanding of research methods, (b) are in the process of conducting research, or (c) plan on conducting research at some point during their careers. Furthermore, it can also be used as a tool by professors who are either teaching research courses or supervising students on theses and dissertations. Specifically, professors will find this reference guide useful in assisting and guiding students interested in improving their understanding of how research is set up and conducted. We have attempted to create a visual system in the form of a practical, easy-to-follow reference guide to help in the conceptualization and development of many of the common research designs. We offer examples of this visual system “in action” for each of the designs presented with the use of published studies. In addition, further recommendations and suggestions are provided for those interested in acquiring a more comprehensive understanding of basic research designs. The book includes the core designs that are used by quantitative, qualitative, and mixed method researchers.

FEATURES

We have maintained a singular focus on research designs and have provided an example for each chosen research design with a relevant peer-reviewed article. We have incorporated a number of features throughout the book that will assist students in designing their own studies. In each example, we summarize
in many cases, the research-article examples include multiple research questions or hypotheses. However, for the sake of clarity, we attempt to present one overarching research question that summarizes the major goal of the study. In some instances, for research in qualitative methods, we include a research aim. Research utilizing mixed methods usually contains an additional research question to answer the inquiry associated with combining quantitative results and qualitative findings. In addition to the example research designs, we also include brief discussions on (a) the relevant aspects of research, (b) different types of designs, (c) the scientific method, and (d) a list of recommended readings pertaining to each area. Also, located in the appendixes, we present many examples of rarely applied research designs, as well as case study designs, with brief notations on the intended use and effectiveness.

**Unique Features**

We have summarized and condensed over 130 articles and books included in this reference guide. In addition, there are many unique features associated with this guide. These features were included to enhance the understanding of the concepts and designs presented:

- An array of relevant references and sources for the reader
- Consistent terminology, which is emphasized throughout (a standardized taxonomy)
- Discussions on the differences between within- and between-subject approaches
- The use of the $k$-factor design as a means to distinguish multiple-treatment groups
- Inclusion of both within-subjects and between-subjects $k$-factor designs
- Diagrams of factorial designs
- Examples of the Solomon $N$-group designs as an extension of the four-group design
- Diagrams of single-case approaches
- Diagrams of nonexperimental research such as observational (correlational) and survey approaches
- Visual models for qualitative methods
- Proposed designs for mixed-method single-case approaches
- Appendixes covering examples of rarely used, but relevant, research designs for experimental and quasi-experimental research, case studies, and mixed methods
For individuals interested in accessing links to the full-text articles related to each research design presented within, among many other relevant articles referenced in this guide, we direct those readers to the companion website, *A Cross-Section of Research Articles Classified by Design: Quantitative, Qualitative, and Mixed Methods*. This website contains links to the actual journal articles or the home pages of journals where the full-text articles can be accessed. Most articles can be accessed through a university’s library database or through the library’s associated interlibrary loan system. For referenced books, when available, we provide the home pages of the companion websites of the texts we have referenced in our book. For books that do not have companion websites, we provide the link to the home page of the publisher of the book, which provides more information about how to access or purchase the book (http://www.sagepub.com/edmonds).

We would like to thank Daniel L. Stufflebeam, PhD, and Ronald J. Chenail, PhD, for providing their insight, thoughts, and suggestions to our book. Drs. Stufflebeam and Chenail’s expertise in their respective areas is undeniable and ultimately helped strengthen the overall product. We would also like to thank Paul E. Spector, PhD, for his insight and contribution to this book. His dedication to the field of scientific inquiry is unwavering and we are honored to have him as a part of this project. We would like to thank Robert K. Yin, PhD, for his thoughts and suggestions, as well as Robert Greene for his editorial and formatting contributions. A special thanks goes to Vicki Knight at Sage for her support and dedication to the project. A number of reviewers provided useful and valuable feedback, which ultimately shaped the book: Theodore D. Joseph, Paine College; Michael B. Johnson, University of Tennessee at Chattanooga; Sharon Anderson Dannels, The George Washington University; Peter M. Jonas, Cardinal Stritch University; Richard E. Adams, Kent State University; Ronald E. Goldsmith, Florida State University; David P. Byers, Bellevue University; John L. Garland, Alabama State University; Ralph E. Swan, Chestnut Hill College; Wanda Wigfall-Williams, American University; Rebecca Keele, New Mexico State University; Detmar Straub, Georgia State University; Marie L. Loggia-Kee, National University; Gretchen Perbix, Minnesota State University at Mankato; Betty Carter Dorr, Fort Lewis College; and Cynthia E. Winston, Howard University.